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DEFENSE NUCLEAR AGENCY
WASHINGTON, D.C. 20305

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30 AUG 1972MEMORANDUM FOR: THE ASSISTANT SECRETARY OF DEFENSE
(International Security Affairs)

SUBJECT: Planning for DOD Efforts to Return Eniwetok to TTPI

1. Reference is made to your memorandum, 17 July 1972, subject as above, which requested this agency to initiate planning to develop the scope of work and resources required to clean up Eniwetok for return to the TTPI.
2. In anticipation of this assignment, DNA participated in a joint survey of the islands with the AEC in May 1972 to determine the nature and extent of the work involved and to arrive at an order of magnitude estimate of cost. Based on information obtained during this survey, it was estimated that cleanup costs alone might run as much as \$40 million and that Runit Island and perhaps Engebi may be contaminated to such an extent, that it may not be economically feasible to make them safe for human use. A later estimate made by Holmes & Narver, Inc. for the AEC gave a similar order of magnitude cost, indicating the cleanup to be a 1-1/2 - 2 year job which would cost from \$27 to \$35 million with the cost of air and ocean transportation to be added and with disposal of radioactive debris by deep ocean burial.
3. Subsequently, a joint meeting was held between AEC and DNA at Germantown, Maryland, on 17 August 1972 to jointly review the information available, to develop a schedule of actions to assist in our planning for this cleanup task and to develop information and recommendations in response to your memorandum. The substance of our discussions and the conclusions reached at this meeting are contained in Enclosure 1.

FOR THE DIRECTOR:

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CLEANUP OF ENIWETOK ATOLL FOR RETURN TO TTPI

1. PURPOSE. The purpose of this paper is to furnish information and recommendations for consideration in formulating policy for the cleanup of Eniwetok Atoll.

2. BACKGROUND.

a. From April 1948 to July 1958 Eniwetok Atoll was the location of ~~some 40~~ shots under the SANDSTONE, IVY, CASTLE, RED WING and HARDTACK I Series of nuclear weapon tests. Much of the debris from these tests, some of it radioactive remains. About one-half of the 43 islands in the atoll was the location of some test activity during this period. For the past one and one-half years DNA has been interested in Eniwetok Atoll as a site for the PACE test series employing high explosives. The atoll is presently under control of the U.S. Air Force which has an inactive Air Force installation on Eniwetok Island. A civilian contractor MATSCO (a General Electric Co. subsidiary) is operating the facility for the Space and Missile Test Command (SAMTEC).

b. On 18 April 1972 the High Commissioner, Honorable Edward E. Johnston and Ambassador Franklin Haydn Williams made a joint announcement that the U.S. is prepared to return Eniwetok to the jurisdiction of the Trust Territory of the Pacific Islands (TTPI) by the end of 1973. About this time informal talks began between the DNA representatives and Capt Gordon S. Schuller, USN, the action officer in the office of ASD(ISA) on planning for the return of Eniwetok to the natives.

c. A survey team comprised of AEC, DOD and EPA personnel visited the islands 10-24 May 1972 to determine the size of the cleanup job. This team found a significant radiological hazard still existed on six islands, Bogallus, Engebi, Aomon, Biijiri, Runit, and ~~Parry~~ (Belle, Janet, Sally, Ursula, Yvonne and ~~Alma~~). Engebi (Janet) in addition, is thought to have been contaminated by a significant amount of dispersed beryllium, a highly toxic substance. This resulted from a high order explosion of a high energy upper stage (HEUS) rocket motor while under test by the Air Force in 1968.

d. The initial "order of magnitude" cost estimate based on this survey was of necessity based on far reaching assumptions. This was because of lack of information as to the extent of radiological contamination as well as the unpredictability of the manner of disposal that would be required for radioactive debris since acceptability both from a bio-environmental and political aspect are required. The initial gross estimate made by DNA was that costs could run as high as \$40 million for this cleanup

AEC later had Holmes & Narver, Inc. make an estimate based on an analysis of more complete radiological data. Their estimate placed the cost in the order of \$25 - \$40 million, using deep sea burial for disposal of both radioactive and other debris. *The other estimate does not include the cost of air and sea.*

3. DISCUSSION. *Transportation or significant soil removal*

a. On 17 August a joint planning meeting was held by the AEC and DNA representatives at AEC in Germantown. AEC brought in representatives from their Nevada Operations Office who were most familiar with the conditions at Eniwetok and DNA brought in representatives from Field Command which is directly engaged with the Air Force Weapons Laboratory (AFWL) in the PACE tests at Eniwetok. The discussions and conclusions reached in this meeting are reflected in this paper, since general agreement was reached on all agenda items.

b. Overall Policy.

(1) The single manager concept will provide the most effective organization for the cleanup and accordingly the on-site effort in charge of a single manager. If the cleanup task is given to DOD, activation of a Joint Task Force similar to that used at BIKINI is proposed. The AEC would provide scientific support including the interpretation of radiological criteria (permissible residuals) as well as the radiological evaluation and controls for the cleanup operation.

(2) It is believed that the cleanup can be accomplished without interference with the PACE test series by scheduling the cleanup of Runit Island after these tests are completed. Actually there is some benefit to the cleanup project from PACE since the presence of this activity has raised the general support capability at this remote inactive Air Force station to a much higher level than it would have been otherwise.

(3) Actions required for return of the Atoll to the TTPI is considered to fall under three principal categories: (a) planning, (b) cleanup to make the islands safe for human habitation and (c) rehabilitation to return the atoll to a life (man) sustaining status.

(4) It is recognized that the joint announcement of the High Commissioner and Ambassador on 18 April 1972 promising the return of the islands to the TTPI by the end of 1973 makes the time factor of critical importance. It is considered essential for this reason that the forthcoming interagency meeting be used to fully acquaint the Federal agencies concerned with the

existing conditions and problems. This should make everyone aware of the need for aggressive but coordinated action in the planning and execution of this project.

(5) The retention of some real estate interest, such as use rights may be required by one or more of the Federal agencies in which case early establishment of their requirements should be made. Additionally, if it is later found infeasible to clean up one or more of the islands, it may be prudent to retain it as a research site.

c. Administrative Responsibilities.

(1) Liaison with the TTPI should be maintained throughout the planning and cleanup phases. It is considered desirable that the District Administration have representatives on the island throughout the cleanup. The Eniwetokese could be used to assist in the rehabilitation phase but due to the difficulty in following individuals for future testing, it is thought best they not be used in the cleanup of "hot" areas. Of course, they could work in the camp area during the cleanup phase. The TTPI must be consulted as to which existing facilities and equipment are to be left for use by TTPI and the resettled natives.

(2) The DOD now has jurisdiction of the Atoll and the real property facilities constructed there are carried on the USAF Real Property account. Transfer of jurisdiction of the atoll to the TTPI should be based on the progressive transfer of individual islands as they are cleared and custody accepted by the District Administrator or his representative. The Air Force should retain title to the property for the United States until transfer of jurisdiction.

(3) Recognition should be made of the role of the Micronesian Legal Services which has already filed a brief giving adverse comments on the draft environmental statement for PACE and purports to be acting on behalf of the People of Eniwetok. Based on their action in the PACE matter, they may be expected to challenge the environmental statement on the cleanup if our plans do not meet their expectations. Accordingly, it is considered essential that the Department of Justice be brought in on the planning at the earliest practicable time. An environmental statement will be required and its preparation should begin as soon as a plan for disposal of radioactive and other debris has been adopted.

d. Funding Responsibility. Prior to the Joint AEC-DOD meeting, decision was made to limit the discussion on funds to those required during the planning stage since it was thought

that the subject should be reserved for the interagency meeting. The AEC is seeking to fund the October-December radiological field survey and evaluation of samples at a cost of approximately \$500,000 while DNA plans to fund certain logistics support to this radiological survey as well as the preliminary engineering survey at a cost of about \$150,000.

e. General Plan.

(1) The more detailed radiological survey of the atoll islands is scheduled to begin sometime in late September or October when the AEC research ship, PALUMBO, arrives on station. ~~AEC is making \$100,000 available to initiate this survey and is seeking the additional \$400,000 within the agency~~ and DNA will furnish transportation and make other base support available from the PACE augmentation to normal Eniwetok assets.

(2) The more detailed engineering survey should be made concurrently in order to support the radiological survey as well as take advantage of the information on radioactive debris as it is gathered. The PACE activities are scheduled to be phased down during the period 26 September - 5 December 1972, awaiting comments on the final environmental impact statement. Thus there should be little competition between PACE and this combined survey for boats and other logistics support. DNA plans to make \$150,000 available for supporting this survey and plans to seek the assistance of the Pacific Ocean Division (POD), U.S. Army Corps of Engineers for performing its engineering phase. There is an Area Office of the POD located at Kwajalein, 389 miles from Eniwetok.

necessary analysis (3) Only after a more detailed survey such as this ~~and~~ can it be determined whether some of the islands can be made safe and whether the lagoon marine life is sufficiently free of contamination to support the returning Eniwetokese. Also, at this time, it is not certain that the cleanup of Runit Island is economically feasible. If not, it may be necessary for safety reasons to retain it under a use agreement with the TTPI in order to control entry into this hazardous areas.

(4) Upon determination that return of the native population is feasible, the actual cleanup can begin. There should be sufficient data analyzed by January or February 1973 to determine the ^{proper} effect of contamination ~~on the food chain after which the operation could proceed with the cleanup.~~ Conceptually it is agreed that cleanup should begin on the least contaminated islands in the South and continue counter clockwise around the atoll chain, returning to those islands being used for PACE

after those tests had been completed. With this flexibility, no conflict is foreseen between those tests and the most optimistic advance of the cleanup work.

4. RECOMMENDATIONS.

a. That the single manager concept be adopted for the cleanup and an Ad Hoc Interagency Coordination Committee be established at Washington level to provide planning guidance and to set policy where the responsibilities and interests of several departments or agencies are involved.

b. That the program for return of the atoll to the TTPI be divided into the following phases:

(1) Survey and ^{preliminary} Planning Phase

(2) Cleanup Phase

(3) Rehabilitation and Resettlement Phase

and that primary responsibility of each of these be assigned a lead agency.

c. That an agreement on source and method of funding be obtained. AEC and DNA are funding for the current radiological and engineering surveys required for development of suitable plans. Neither agency intends to provide such support to the cleanup operation without reimbursement.

d. That general approval be given the cleanup scheme which calls for initiation of the actual cleanup operation after results of the October-December 1972 survey are known, ~~and the adequacy of the atoll food base determined.~~

e. That in addition to the Department of Interior, the Department of Defense and the Atomic Energy Commission, the following agencies be invited to have representatives attend the Interagency meeting on 7 September:

- (1) Office, Management and Budget
- (2) Council on Environmental Quality
- (3) Department of State
- (4) Department of Justice
- (5) Department of Agriculture
- (6) Surgeon General's Office (HEW)
- (7) Environmental Protection Agency
- (8) ~~U.S. Coast Guard~~ ^{Department of} ~~Treasury~~
- (9) National Oceanic and Atmospheric Administration

(10) *Office of Science and Technology*

5. That attendees at this meeting be briefed on current planning for cleanup and rehabilitation of the atoll islands prior to their return to the TTPI and informed of the present estimated costs and time factors involved.